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simulation and vehicle and crash

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Results:
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1 **The computation of constrained dynamical systems: matching physical modeling with numerical methods**
Fox, B.; Jennings, L.; Zomaya, A.Y.
Computing in Science & Engineering , Volume: 3 Issue: 1 , Jan.-Feb. 2001
Page(s): 28 -36

[Abstract] [PDF Full-Text (260 KB)] **JNL**

2 **Pre-processing of 3D CAD data for electromagnetic simulations by the method of moments**
Jobava, R.; Frei, S.; Bogdanov, F.; Gheonjian, A.; Kvaratskhelia, R.; Sukhiashvili, Z.
Direct and Inverse Problems of Electromagnetic and Acoustic Wave Theory, 2001. DIPED 2001. Proceedings of the 6th International Seminar/Workshop on , 2001
Page(s): 191 -194

[Abstract] [PDF Full-Text (247 KB)] **CNF**

3 **Collision avoidance analysis for lane changing and merging**
Jula, H.; Kosmatopoulos, E.B.; Ioannou, P.A.
Vehicular Technology, IEEE Transactions on , Volume: 49 Issue: 6 , Nov. 2000
Page(s): 2295 -2308

[Abstract] [PDF Full-Text (360 KB)] **JNL**

4 **Robustness optimization for vehicular crash simulations**

Ren-Jye Yang; Akkerman, A.; Anderson, D.F.; Faruque, O.M.; Lei Gu
Computing in Science & Engineering , Volume: 2 Issue: 6 , Nov.-Dec. 2000
Page(s): 8 -13

[Abstract] [PDF Full-Text (620 KB)] **JNL**

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5 **Development of a wheelchair occupant injury risk assessment method and its application in the investigation of wheelchair securement point influence on frontal crash safety**
Bertocci, G.E.; Hobson, D.A.; Digges, K.H.
Rehabilitation Engineering, IEEE Transactions on [see also IEEE Trans. on Neural Systems and Rehabilitation Engineering] , Volume: 8 Issue: 1 , March 2000
Page(s): 126 -139

[Abstract] [PDF Full-Text (404 KB)] **JNL**

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6 **Computer simulation and sled test validation of a powerbase wheelchair and occupant subjected to frontal crash conditions**
Bertocci, G.E.; Szobota, S.; Hobson, D.A.; Digges, K.
Rehabilitation Engineering, IEEE Transactions on [see also IEEE Trans. on Neural Systems and Rehabilitation Engineering] , Volume: 7 Issue: 2 , June 1999
Page(s): 234 -244

[Abstract] [PDF Full-Text (600 KB)] **JNL**

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7 **Adaptation of integrated restraint (IR) technology for use in the wheelchair transportation industry**
van Roosmalen, L.; Bertocci, G.E.
[Engineering in Medicine and Biology, 1999. 21st Annual Conference and the 1999 Annual Fall Meetring of the Biomedical Engineering Society] BMES/EMBS Conference, 1999. Proceedings of the First Joint , Volume: 1 , 1999
Page(s): 605 vol.1

[Abstract] [PDF Full-Text (112 KB)] **CNF**

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8 **Investigation and simulation of lateral buckling in trains**
Mayville, R.; Rancatore, R.; Tegeler, L.
Railroad Conference, 1999. Proceedings of the 1999 ASME/IEEE Joint , 1999
Page(s): 88 -93

[Abstract] [PDF Full-Text (416 KB)] **CNF**

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9 **Development of a passenger rail vehicle crush zone**
Mayville, R.; Stringfellow, R.; Rancatore, R.; Johnson, K.
Railroad Conference, 1999. Proceedings of the 1999 ASME/IEEE Joint , 1999
Page(s): 94 -101

[Abstract] [PDF Full-Text (492 KB)] **CNF**

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10 **A crash avoidance system based upon the cockroach escape response circuit**
Chun-Ta Chen; Quinn, R.D.; Ritzmann, R.E.
Robotics and Automation, 1997. Proceedings., 1997 IEEE International Conference on , Volume: 3 , 1997
Page(s): 2007 -2012 vol.3

[Abstract] [PDF Full-Text (504 KB)] **CNF**

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11 **The use of a virtual environment for FE analysis of vehicle crash worthiness**
Kuschfeldt, S.; Schulz, M.; Ertl, T.; Reuding, T.; Holzner, M.
Virtual Reality Annual International Symposium, 1997., IEEE 1997 , 1997
Page(s): 209

[Abstract] [PDF Full-Text (176 KB)] **CNF**

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12 **Development of transportable wheelchair design criteria using computer crash simulation**
Bertocci, G.E.; Hobson, D.A.; Digges, K.H.
Rehabilitation Engineering, IEEE Transactions on [see also IEEE Trans. on Neural Systems and Rehabilitation Engineering] , Volume: 4 Issue: 3 , Sept. 1996
Page(s): 171 -181

[Abstract] [PDF Full-Text (1192 KB)] **JNL**

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13 **A low-cost force feedback joystick and its use in PC video games**
Ming Ouhyoung; Wu-Nan Tsai; Ming-Chang Tsai; Jiann-Rong Wu; Chung-Hsi Huang; Tzong-Jer Yang
Consumer Electronics, IEEE Transactions on , Volume: 41 Issue: 3 , Aug. 1995
Page(s): 787 -794

[Abstract] [PDF Full-Text (568 KB)] **JNL**

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14 **At Oak Ridge, a car crash on the World Wide Web**
Sims, D.
IEEE Computer Graphics and Applications , Volume: 15 Issue: 3 , May 1995
Page(s): 16 -18

[Abstract] [PDF Full-Text (228 KB)] **JNL**

15 **Benchmarking the performance of physical impact simulation software on vector and parallel computers**
Ginsberg, M.; Johnson, J.P.
Supercomputing 88. Vol.II: Science and Applications., Proceedings , 1989
Page(s): 180 -190 vol.2

[Abstract] [PDF Full-Text (520 KB)] **CNF**

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Journal or Magazine = **JNL** Conference = **CNF** Standard = **STD**

1 **Atmospheric transmission at microwaves (ATM): an improved model for millimeter/submillimeter applications**
Pardo, J.R.; Cernicharo, J.; Serabyn, E.
Antennas and Propagation, IEEE Transactions on , Volume: 49 Issue: 12 , Dec. 2001
Page(s): 1683 -1694

[Abstract] [PDF Full-Text (297 KB)] **JNL**

Your search matched **8** of **792573** documents.
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Results:
Journal or Magazine = **JNL** Conference = **CNF** Standard = **STD**

1 **Virtual-prototyping satellite electrical power systems using the virtual test bed**
Zhenhua Jiang; Shengyi Liu; Dougal, R.A.
SoutheastCon, 2002. Proceedings IEEE , 2002
Page(s): 113 -120

[Abstract] [PDF Full-Text (614 KB)] **CNF**

2 **Simulating an optical guidance system for the recovery of an unmanned underwater vehicle**
Deltheil, C.; Didier, L.; Hospital, E.; Brutzman, D.P.
Oceanic Engineering, IEEE Journal of , Volume: 25 Issue: 4 , Oct. 2000
Page(s): 568 -574

[Abstract] [PDF Full-Text (256 KB)] **JNL**

3 **A Matlab-based modeling and simulation package for electric and hybrid electric vehicle design**
Butler, K.L.; Ehsani, M.; Kamath, P.
Vehicular Technology, IEEE Transactions on , Volume: 48 Issue: 6 , Nov. 1999
Page(s): 1770 -1778

[Abstract] [PDF Full-Text (224 KB)] **JNL**

4 **On real-time simulation of induction motors**
Sureshbabu, N.; Seshagiri, S.; Masrur, A.; Powell, B.K.
American Control Conference, 1999. Proceedings of the 1999 ,

Volume: 1 , 1999
Page(s): 719 -723 vol.1

[Abstract] [PDF Full-Text (456 KB)] **CNF**

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5 **Comparison of traffic assignments in evacuation modeling**
Hobeika, A.G.; Changkyun Kim
Engineering Management, IEEE Transactions on , Volume: 45 Issue: 2 , May 1998
Page(s): 192 -198

[Abstract] [PDF Full-Text (92 KB)] **JNL**

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6 **Autonomous vehicle using WADGPS**
Singh, D.; Grewal, H.K.
Intelligent Vehicles '95 Symposium., Proceedings of the , 1995
Page(s): 370 -375

[Abstract] [PDF Full-Text (496 KB)] **CNF**

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7 **Three-dimensional visualization of mission planning and control for the NPS autonomous underwater vehicle**
Zyda, M.J.; McGhee, R.B.; Kwak, S.; Nordman, D.B.; Rogers, R.C.; Marco, D.
Oceanic Engineering, IEEE Journal of , Volume: 15 Issue: 3 , July 1990
Page(s): 217 -221

[Abstract] [PDF Full-Text (552 KB)] **JNL**

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8 **Class Simulation Of Real Time, Highly Compressed Video Transmission Through An Interference Limited Environment**
Godfrey, R.; Lai, D.; Avant, R.; Wang, J.
Simulation Conference Proceedings, 1989. Winter
Page(s): 1065 -1075

[Abstract] [PDF Full-Text (1300 KB)] **CNF**

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1 **Computer simulation and sled test validation of a powerbase wheelchair and occupant subjected to frontal crash conditions**
Bertocci, G.E.; Szobota, S.; Hobson, D.A.; Digges, K.
Rehabilitation Engineering, IEEE Transactions on [see also IEEE Trans. on Neural Systems and Rehabilitation Engineering] , Volume: 7 Issue: 2 , June 1999
Page(s): 234 -244

[Abstract] [PDF Full-Text (600 KB)] **JNL**

2 **At Oak Ridge, a car crash on the World Wide Web**
Sims, D.
IEEE Computer Graphics and Applications , Volume: 15 Issue: 3 , May 1995
Page(s): 16 -18

[Abstract] [PDF Full-Text (228 KB)] **JNL**

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     (FILE 'HOME' ENTERED AT 14:18:30 ON 26 AUG 2002)

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     AUG 2002
L1          442 S SIMULATION AND VEHICLE AND CRASH
L2           87 S L1 AND RESTRAINT#
L3           53 S L2 AND MODEL?
L4           21 S L3 AND VEHICLE CRASH

=> D L4 1-21 IBIB ABS


L4   ANSWER 1 OF 21  USPATFULL
ACCESSION NUMBER:        2002:192545  USPATFULL
TITLE:                   Decision-aid system based on wirelessly-transmitted
                       vehicle crash sensor information
INVENTOR(S):             Burge, John R., Redondo Beach, CA, UNITED STATES

                              NUMBER        KIND    DATE
                         --------------- ------ --------
PATENT INFORMATION:      US 2002103622      A1   20020801
APPLICATION INFO.:       US 2001-907542     A1   20010716  (9)

                                NUMBER         DATE
                         ----------------- --------
PRIORITY INFORMATION:    US 2000-218576P    20000717 (60)
                         US 2000-218577P    20000717 (60)
                         US 2000-218578P    20000717 (60)
                         US 2000-218579P    20000717 (60)
                         US 2000-223814P    20000808 (60)
                         US 2000-236999P    20000929 (60)
                         US 2000-253796P    20001129 (60)
DOCUMENT TYPE:           Utility
FILE SEGMENT:            APPLICATION
LEGAL REPRESENTATIVE:    Eric K. Satermo, Registered Patent Agent, P.O. Box
                         19099, Irvine, CA, 92633-9099
NUMBER OF CLAIMS:        56
EXEMPLARY CLAIM:         1
NUMBER OF DRAWINGS:      40 Drawing Page(s)
LINE COUNT:              2044
AB       A decision-aid system that receives, analyzes, manages and communicates
         data from vehicle crash sensors for use by trauma
         system personnel in treating injured occupants from the vehicles
         which produced the crash sensor data. The system utilizes a
         computer system that accepts and analyzes vehicle
       crash data from vehicle communication systems
         connected to crash sensors that generate data when a
       vehicle is involved in a crash. Crash sensor
         data is stored on a central network for remote access by trauma system
         personnel and others providing response services and medical services
to
         injured vehicle occupants. By gaining access to crash
         sensor data, analyzed crash sensor data and other information,
         accurate patient transport, handling and treatment decisions can be
         made.
```

L4 ANSWER 2 OF 21 USPATFULL

ACCESSION NUMBER: 2002:192474 USPATFULL
TITLE: Biomechanical system development of a **restraint** system
INVENTOR(S): Cooper, John, Oxford, MI, UNITED STATES

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 2002103549	A1	20020801	
APPLICATION INFO.:	US 2001-774924	A1	20010131	(9)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: BREED TECHNOLOGIES, INC, PATENT DEPARTMENT, 7000 NINETEEN MILE ROAD, STERLING HEIGHTS, MI, 48314
NUMBER OF CLAIMS: 20
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 10 Drawing Page(s)
LINE COUNT: 615

AB Disclosed is a safety **restraint** design controller for controlling the design of a safety **restraint** system so that a predetermined desired level of an occupant's response (89) is produced. The controller has a database (85) for storing an occupant **restraint** factor response **model** (90). The **model** (90) interrelates at least one predetermined **restraint** factor (88) with the occupant response (89), the **restraint** factors having a level that is indicative of setting values for controlling the safety **restraint** design. A database engine connected to the database (85) determines a level for the occupant response (89) based upon the **model** and upon a first level of the **restraint** factors. An optimizer is connected to the database engine for determining a second level of the **restraint** factors (88), which produces the desired level of the occupant response based upon the desired level of the occupant response (89) from the database engine; whereby the safety **restraints** design is controlled based upon the determined second level of the **restraint** factors that produces the desired level of the safety response.

L4 ANSWER 3 OF 21 USPATFULL

ACCESSION NUMBER: 2002:70559 USPATFULL
TITLE: Neural network radar processor
INVENTOR(S): Farmer, Michael E., West Bloomfield, MI, United States
Jacobs, Craig S., Farmington Hills, MI, United States
Cong, Shan, Ann Arbor, MI, United States
PATENT ASSIGNEE(S): Automotive Systems Laboratory, Inc., Farmington Hills, MI, United States (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6366236	B1	20020402	
APPLICATION INFO.:	US 2000-637044		20000811	(9)

	NUMBER	DATE
PRIORITY INFORMATION:	US 1999-148597P	19990812 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Blum, Theodore M.
LEGAL REPRESENTATIVE: Dinnin & Dunn, P.C.
NUMBER OF CLAIMS: 18
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 12 Drawing Figure(s); 6 Drawing Page(s)
LINE COUNT: 1088

AB A neural network radar processor (10) comprises a multilayer perceptron neural network (100.1) comprising an input layer (102), a second layer

(122), and at least a third layer (124), wherein each layer has a plurality of nodes (108), and respective subsets of nodes (108) of the second (122) and third (124) layers are interconnected so as to form mutually exclusive subnetworks (120). In-phase and quadrature phase time series from a sampled down-converted FMCW radar signal (19) are applied to the input layer, and the neural network (100) is trained so that the nodes of the output layer (106) are responsive to targets in corresponding range cells, and different subnetworks (120) are responsive to respectively different non-overlapping sets of target ranges. The neural network is trained with signals that are germane to an FMCW radar, including a wide range of target scenarios as well as leakage signals, DC bias signals, and background clutter signals.

L4 ANSWER 4 OF 21 USPATFULL

ACCESSION NUMBER:	2001:174751 USPATFULL
TITLE:	Optimization of a single-point frontal airbag fire threshold
INVENTOR(S):	Nusholtz, Guy S., Bloomfield, MI, United States Shi, Yibing, Novi, MI, United States Xu, Lan, Rochester Hill, MI, United States
PATENT ASSIGNEE(S):	DaimlerChrysler Corporation, Auburn Hills, MI, United States (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6301535	B1	20011009	
APPLICATION INFO.:	US 1999-426845		19991026	(9)

DOCUMENT TYPE:	Utility
FILE SEGMENT:	GRANTED
PRIMARY EXAMINER:	Cuchlinski, Jr., William A.
ASSISTANT EXAMINER:	Arthur, Gertrude
LEGAL REPRESENTATIVE:	Calcaterra, Mark P.
NUMBER OF CLAIMS:	40
EXEMPLARY CLAIM:	1
NUMBER OF DRAWINGS:	38 Drawing Figure(s); 19 Drawing Page(s)
LINE COUNT:	1041

AB A method of optimization of a single-point frontal airbag fire threshold. The relationship of the airbag fire distribution as a function of velocity to the airbag fire-time is characterized through the use of an optimization procedure. The optimization is conducted by abstracting the sensor algorithm and its associated constraints into a simple mathematical formulation. An airbag fire objective function is constructed that integrates the fire-rate and fire-time requirements. The function requires the input of a single acceleration time history, and it produces an output depending on the airbag fire condition. Numerical search of the optimal fire threshold curve is achieved through parameterizing this curve and applying a modified simplex search optimization algorithm that determines the optimal threshold function parameters without computing the complete objective function in the parameter space.

L4 ANSWER 5 OF 21 USPATFULL

ACCESSION NUMBER:	2001:154848 USPATFULL
TITLE:	Methods for controlling a system in a **vehicle** using a transmitting/receiving transducer and/or while compensating for thermal gradients
INVENTOR(S):	Johnson, Wendell C., Signal Hill, CA, United States Du Vall, Wilbur E., Kimberling City, MO, United States Breed, David S., Boonton Township, NJ, United States

NUMBER	KIND	DATE

PATENT INFORMATION: US 2001020777 A1 20010913
APPLICATION INFO.: [redacted]S 2001-827961 A1 20010406[redacted](9)
RELATED APPLN. INFO.: [redacted]ntinuation-in-part of Ser. No[redacted]S 1999-328566, filed on 9 Jun 1999, PENDING

	NUMBER	DATE
PRIORITY INFORMATION:	US 1998-88386P	19980609 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: BRIAN ROFFE, ESQ, 366 LONGACRE AVENUE, WOODMERE, NY, 11598
NUMBER OF CLAIMS: 54
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 41 Drawing Page(s)
LINE COUNT: 3929

AB Methods for controlling a **vehicle** system in which radiation is directed from a transducer into the passenger compartment and is reflected off or modified by an object in the passenger compartment and received by the same or a different transducer. When ultrasonic waves are used, one or more techniques are used to compensate for thermal gradients in the passenger compartment and/or enable the use of a single transducer to send and receive waves, for example, a tubular mounting structure for the transducers, electronic reduction of ringing of the transducer, mechanical damping of the transducer cone, shaped horns, grills and reflectors for the output of the transducers to precisely control the beam pattern, a logarithmic compression amplifier, a temperature compensation method based on change in transducer properties with temperature and/or a dual level network, one level for categorization and the second for occupant position sensing.

L4 ANSWER 6 OF 21 USPATFULL
ACCESSION NUMBER: 2001:141107 USPATFULL
TITLE: Methods for controlling a system in a **vehicle** using a transmitting/receiving transducer and/or while compensating for thermal gradients
INVENTOR(S): Johnson, Wendell C., Torrance, CA, United States
Duvall, Wilbur E., Kimberling City, MO, United States
Breed, David S., Boonton Township, Morris County, NJ, United States
PATENT ASSIGNEE(S): Automotive Technologies International Inc., Denville, NJ, United States (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6279946	B1	20010828	
APPLICATION INFO.:	US 1999-328566		19990609	(9)

	NUMBER	DATE
PRIORITY INFORMATION:	US 1998-88386P	19980609 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Boehler, Anne Marie
ASSISTANT EXAMINER: Fischmann, Bryan
LEGAL REPRESENTATIVE: Roffe, Brian
NUMBER OF CLAIMS: 39
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 55 Drawing Figure(s); 41 Drawing Page(s)
LINE COUNT: 3573

AB Methods for controlling a system in a **vehicle** in which radiation is directed from a transducer into the passenger compartment and is reflected off or modified by an object in the passenger

compartment and received by the same or a different transducer. When ultrasonic waves in particular are used, several techniques are used to compensate for thermal gradients in the passenger compartment and/or enable the use of a single transducer to send and receive waves. This is accomplished through the use of a tubular mounting structure for the transducers, electronic suppression of ringing of the transducer, mechanical damping of the transducer cone, shaped horns, grills and reflectors for the output of the transducers to precisely control the beam pattern, a logarithmic compression amplifier, a method of temperature compensation based on the change in transducer properties with temperature and/or a dual level network, one level for categorization and the second for occupant position sensing, to improve the accuracy of categorization and the speed of position measurement for dynamic out-of-position.

L4 ANSWER 7 OF 21 USPATFULL

ACCESSION NUMBER: 2000:29802 USPATFULL
TITLE: Test rig
INVENTOR(S): Jost, Stefan, Eppstein-Bremthal, Germany, Federal Republic of
PATENT ASSIGNEE(S): Breed Automotive Technology, Inc., Lakeland, FL, United States (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6035728		20000314	
	WO 9746859		19971211	
APPLICATION INFO.:	US 1998-486		19980130	(9)
	WO 1997-GB1488		19970602	
			19980130	PCT 371 date
			19980130	PCT 102(e) date

	NUMBER	DATE
PRIORITY INFORMATION:	GB 1996-11557	19960603
	GB 1996-23933	19961118

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Noland, Thomas P.
LEGAL REPRESENTATIVE: Seitzman, Markell
NUMBER OF CLAIMS: 11
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 12 Drawing Figure(s); 7 Drawing Page(s)
LINE COUNT: 288

AB A test rig for impact testing on **vehicles** comprises a platform for mounting a **vehicle** seat and test dummy and an array of individually selectively controllable actuators, in close proximity to the platform. The actuators are extendible towards the platform by individually determinable velocities. Control loops and microprocessors assist the control. In this way a more accurate and versatile **simulation** is possible of any one of a variety of **crash** situations including pole impacts. **Vehicle** characteristics can be simulated without the need to use expensive actual **vehicle** parts.

L4 ANSWER 8 OF 21 USPATFULL

ACCESSION NUMBER: 1998:42552 USPATFULL
TITLE: Lower leg for **crash** test dummy
INVENTOR(S): Viano, David C., Bloomfield Hills, MI, United States
Jedrzejczak, Edward A., Brown City, MI, United States
Smrcka, Joseph G., Northville, MI, United States

PATENT ASSIGNEE(S): First Technology Safety Systems, Inc., Plymouth, MI, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5741989		19980421
APPLICATION INFO.:	US 1996-757514		19961127 (8)

RELATED APPLN. INFO.: Division of Ser. No. US 1994-331282, filed on 28 Oct 1994, now patented, Pat. No. US 5589651

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Raevis, Robert
LEGAL REPRESENTATIVE: Clemens, William J.
NUMBER OF CLAIMS: 5
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 4 Drawing Figure(s); 3 Drawing Page(s)
LINE COUNT: 375

AB A lower leg assembly includes laceration indicators at a knee joint and at a front of a tibia. The tibia is connected to a thigh of a dummy by a pivot arm and a potentiometer is provided for measuring relative motion between the tibia and the pivot arm. A damper is positioned between the tibia and the pivot arm. A load cell is connected between the tibia and a lower leg to ankle connector. The connector is pivotally connected to an ankle joint and the ankle joint has a ball which cooperates with a socket formed in a foot assembly to simulate the range of motion of a human foot-ankle joint. Cushions are provided at the connector to ankle joint connection and the ball to socket connection to return the ankle and foot to a neutral position.

L4 ANSWER 9 OF 21 USPATFULL
ACCESSION NUMBER: 97:114420 USPATFULL
TITLE: Seat cushion **restraint** system
INVENTOR(S): Brantman, Russel, Tampa, FL, United States
Helleman, Hendrik Bernardus, Brandon, FL, United States
Nakhla, Said Shafik, Lakeland, FL, United States
PATENT ASSIGNEE(S): Breed Automotive Technology, Inc., Lakeland, FL, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5695242		19971209
APPLICATION INFO.:	US 1996-601933		19960215 (8)

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Cranmer, Laurie K.
LEGAL REPRESENTATIVE: Drayer, Lonnie
NUMBER OF CLAIMS: 17
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 23 Drawing Figure(s); 12 Drawing Page(s)
LINE COUNT: 960

AB A seat structure has a device which acts to reduce the interaction between the lower extremities of a **vehicle** occupant and the **vehicle** interior. The seat structure also reduces the interaction between the **vehicle** occupant's legs and the instrument panel by limiting the forward travel of the lower torso. The seat structure may employ an airbag, a mechanical device or a pyrotechnic device, which elevates only the front part of the seat cushion to remove the leg and foot from the path of the intruding or reactive structure, and to minimize the travel of the lower torso into the instrument panel. A **crash** sensor activates the device when the **crash** sensor senses a **crash** of a selected severity.

L4 ANSWER 10 OF 21 USPATFULL
ACCESSION NUMBER: 97:48487 USPATFULL
TITLE: Safety seat
INVENTOR(S): Singer, Neil C., New York, NY, United States
Gordon, Steven J., Jamaica Plain, MA, United States
Zirps, Christopher T., Milton, MA, United States
Russo, Massimo A., Brookline, MA, United States
PATENT ASSIGNEE(S): Massachusetts Institute of Technology, Cambridge, MA, United States (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 5636424		19970610	
APPLICATION INFO.:	US 1994-182511		19940113	(8)

RELATED APPLN. INFO.: Continuation of Ser. No. US 1991-732860, filed on 19 Jul 1991, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Gorski, Joseph M.
NUMBER OF CLAIMS: 6
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 6 Drawing Figure(s); 3 Drawing Page(s)
LINE COUNT: 414

AB The **vehicle** safety seat supports an occupant and includes structure interconnecting the seat and the **vehicle**. The interconnecting structure is adapted to constrain the seat, upon **vehicle** deceleration, to follow a trajectory with respect to the **vehicle** which substantially minimizes a cost function associated with occupant injury. In a preferred embodiment, the structure constrains the mass center and seat angle to follow trajectories which substantially minimize primarily forward motion of the occupant in the **vehicle** frame of reference.

L4 ANSWER 11 OF 21 USPATFULL
ACCESSION NUMBER: 97:18849 USPATFULL
TITLE: **Vehicle crash** data generator
INVENTOR(S): Cuddihy, Mark A., New Boston, MI, United States
Drummond, Jr., J. B., Southfield, MI, United States
Bourquin, Daniel J., Dearborn, MI, United States
PATENT ASSIGNEE(S): Ford Motor Company, Dearborn, MI, United States (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 5608629		19970304	
APPLICATION INFO.:	US 1994-365381		19941227	(8)

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Teska, Kevin J.
ASSISTANT EXAMINER: Nguyen, Tan
LEGAL REPRESENTATIVE: Mollon, Mark
NUMBER OF CLAIMS: 11
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 10 Drawing Figure(s); 8 Drawing Page(s)
LINE COUNT: 321

AB **Crash** data from actual **vehicle crashes** is manipulated to produce new hybrid **crash** data which contains different acceleration peaks while retaining the overall characteristics of the original **crash** data. The new **crash** data is realistic and can be used to test or verify **crash** management components such as airbag deployment sensors and to demonstrate the robustness of components to different **crashes** without the

expense of running another **crash** test.

L4 ANSWER 12 OF 21 USPATFULL
ACCESSION NUMBER: 96:121054 USPATFULL
TITLE: Lower leg for **crash** test dummy
INVENTOR(S): Viano, David C., Bloomfield Hills, MI, United States
Jedrzejczak, Edward A., Brown City, MI, United States
Smrcka, Joseph G., Northville, MI, United States
PATENT ASSIGNEE(S): First Technology Safety Systems, Inc., Plymouth, MI, United States (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 5589651		19961231	
APPLICATION INFO.:	US 1994-331282		19941028	(8)

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Raevis, Robert
LEGAL REPRESENTATIVE: Howard & Howard Atty.
NUMBER OF CLAIMS: 9
EXEMPLARY CLAIM: 4
NUMBER OF DRAWINGS: 4 Drawing Figure(s); 3 Drawing Page(s)
LINE COUNT: 401

AB A lower leg assembly includes laceration indicators at a knee joint and at a front of a tibia. The tibia is connected to a thigh of a dummy by a

pivot arm and a potentiometer is provided for measuring relative motion between the tibia and the pivot arm. A damper is positioned between the tibia and the pivot arm. A load cell is connected between the tibia and a lower leg to ankle connector. The connector is pivotally connected to an ankle joint and the ankle joint has a ball which cooperates with a socket formed in a foot assembly to simulate the range of motion of a human foot-ankle joint. Cushions are provided at the connector to ankle joint connection and the ball to socket connection to return the ankle and foot to a neutral position.

L4 ANSWER 13 OF 21 USPATFULL
ACCESSION NUMBER: 96:114562 USPATFULL
TITLE: Method and apparatus for distinguishing between deployment events and non-deployment events in an SIR system
INVENTOR(S): Lynch, David D., Santa Barbara, CA, United States
Long, James F., Goleta, CA, United States
Brumbach, Jr., Rex P., Goleta, CA, United States
Garcia, Jr., Porfirio, Santa Ynez, CA, United States
Kiselewich, Stephen J., Carmel, IN, United States
Turner, Douglas D., Kokomo, IN, United States
PATENT ASSIGNEE(S): Delco Electronics Corp., Kokomo, IN, United States (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 5583771		19961210	
APPLICATION INFO.:	US 1994-285673		19940804	(8)

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Park, Collin W.
LEGAL REPRESENTATIVE: Navarre, Mark A.
NUMBER OF CLAIMS: 20
EXEMPLARY CLAIM: 11
NUMBER OF DRAWINGS: 8 Drawing Figure(s); 8 Drawing Page(s)
LINE COUNT: 585

AB A pattern recognition system is utilized in a supplementary inflatable **restraint** (SIR) system to distinguish between deployment and

non-deployment events. The pattern recognition system preferably includes dedicated hardware or a microprocessor programmed to perform a neural network simulation utilizing **crash** data in the form of **vehicle** acceleration data. Training and trial vectors are generated from the data to train and, subsequently, test the neural network.

L4 ANSWER 14 OF 21 USPATFULL
ACCESSION NUMBER: 96:4860 USPATFULL
TITLE: Apparatus and method for side impact testing
INVENTOR(S): Stein, Douglas J., Oxford, MI, United States
Peters, Frederick M., Northville, MI, United States
Kelly, James R., Richmond, MI, United States
Ivan, Chad J., Fenton, MI, United States
PATENT ASSIGNEE(S): Morton International, Inc., Chicago, IL, United States (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 5483845		19960116	
APPLICATION INFO.:	US 1994-304386		19940912	(8)

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Noland, Thomas P.
LEGAL REPRESENTATIVE: Rauchfuss, Jr., George W., White, Gerald K.
NUMBER OF CLAIMS: 15
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 3 Drawing Figure(s); 3 Drawing Page(s)
LINE COUNT: 535

AB Apparatus for simulating a side impact **vehicle crash** comprises a test dolly assembly slidably mounted for longitudinal movement on a slidably mounted sled carriage accelerated by a pressure differential firing means. The test dolly assembly is essentially stationary on a track fixedly mounted on the sled carriage assembly until a ram on the sled carriage assembly strikes an impact block on the test dolly assembly.

L4 ANSWER 15 OF 21 USPATFULL
ACCESSION NUMBER: 94:89892 USPATFULL
TITLE: Generalized rotary shock and impact testing machine
INVENTOR(S): Castelli, Vittorio, Yorktown Heights, NY, United States
PATENT ASSIGNEE(S): Automotive Technologies International, Inc., Boontown Township, NJ, United States (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 5355716		19941018	
APPLICATION INFO.:	US 1990-531906		19900601	(7)

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Woodiel, Donald O.
LEGAL REPRESENTATIVE: Sprung Horn Kramer & Woods
NUMBER OF CLAIMS: 36
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 38 Drawing Figure(s); 38 Drawing Page(s)
LINE COUNT: 1057

AB This invention relates to a shock and impact testing apparatus for subjecting items under test, such as a motor **vehicle crash** sensor, to an acceleration pulse of a prescribed amplitude and shape, such as a half sine or haversine. The apparatus includes a stationary support providing a pivot point, a swivel arm mounted for

rotational movement about the pivot point and an electric motor, arranged on the stationary support and mechanically coupled to the swivel arm, for rotating the swivel arm at a desired, prescribed speed. The arm has a free end for the attachment of the test object so that the test object is moved at the prescribed speed along a given path. A mechanical spring is arranged in this path for reversing the direction of motion of the test object, thereby imparting an acceleration pulse to the test object of a prescribed shape. The spring has a plurality of characteristic modes of vibration which provide different frequencies of vibration; however, the spring is constructed to reverse the direction of motion of the test object at substantially one frequency of vibration. The apparatus can also be used for subjecting a test object to a prescribed impact.

L4 ANSWER 16 OF 21 USPATFULL

ACCESSION NUMBER: 93:63384 USPATFULL
TITLE: Spring mass passenger compartment **crash** sensors
INVENTOR(S): Breed, David S., Boontown, NJ, United States
PATENT ASSIGNEE(S): Automotive Technologies International Inc., Mountain Lakes, NJ, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5233141		19930803
APPLICATION INFO.:	US 1991-727757		19910709 (7)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1990-480273, filed on 15 Feb 1990 And Ser. No. US 1990-480271, filed on 15 Feb 1990, now patented, Pat. No. US 5155307 Ser. No. Ser. No. US 1990-480257, filed on 15 Feb 1990 Ser. No. Ser. No. US 1991-686717, filed on 17 Apr 1991, now abandoned which is a continuation-in-part of Ser. No. US 1989-314603, filed on 23 Feb 1989, now abandoned
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Scott, J. R.
LEGAL REPRESENTATIVE: Sprung Horn Kramer & Woods
NUMBER OF CLAIMS: 18
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 19 Drawing Figure(s); 17 Drawing Page(s)
LINE COUNT: 898

AB This invention includes **crash** sensors designed to be used for frontal impact sensing and the strategies of using these sensors. It is analyzed and shown that for cases where the passenger compartment mounted discriminating sensor is used as a backup to forward crush zone mounted **crash** sensors or where the **vehicle** occupant is wearing a seat belt, that spring mass sensors can be used. In addition, spring mass sensors can also be used as arming or safing sensors. In all cases, provision must be made to minimize the effects of cross-axis vibrations on such sensors as taught by this invention. Such sensors can be made with housings of plastic. A preferred embodiment of this invention utilizes a mass supported and biased by a beam contact which is attached to a housing. These sensors are useful for sensing frontal impacts in the passenger compartment both as primary sensors and as single or dual contact arming sensors. They can also be combined by placing two sensors within a single housing and, in some cases, the same mass can be used for both sensors. Finally, they can be used in electro-mechanical and in all mechanical air bag systems. It is further

taught that the response of all spring biased sensors can be improved by making the at r[illegible] bias substantially less than [illegible]e bias at actuation.

L4 ANSWER 17 OF 21 INSPEC COPYRIGHT 2002 IEE

ACCESSION NUMBER: 1999:6293505 INSPEC

DOCUMENT NUMBER: B1999-08-7520H-007; C1999-08-1290L-057

TITLE: Computer **simulation** and sled test validation of a powerbase wheelchair and occupant subjected to frontal **crash** conditions.

AUTHOR: Bertocci, G.E.; Szobota, S.; Hobson, D.A.; Digges, K. (Dept. of Rehabilitation Sci. & Technol., Pittsburgh Univ., PA, USA)

SOURCE: IEEE Transactions on Rehabilitation Engineering (June 1999) vol.7, no.2, p.234-44. 10 refs.
Doc. No.: S1063-6528(99)04472-9
Published by: IEEE
Price: CCCC 1063-6528/99/$10.00
CODEN: IEEREN ISSN: 1063-6528
SICI: 1063-6528(199906)7:2L.234:CSST;1-T

DOCUMENT TYPE: Journal

TREATMENT CODE: Theoretical; Experimental

COUNTRY: United States

LANGUAGE: English

DN B1999-08-7520H-007; C1999-08-1290L-057

AB The Americans with Disabilities Act (ADA) has led to an increased number of wheelchair users seeking transportation services. Many of these individuals are unable to transfer to a **vehicle** and are instead required to travel seated in their wheelchairs. Unfortunately, wheelchairs are not typically designed with the same occupant protection features as motor **vehicle** seats, and wheelchair seated occupants may be at higher risk for injury in a **crash**. To study the effects of **crash** level forces on wheelchairs and their occupants, it is useful to simulate **crash** conditions using computer **modeling**. This study has used a dynamic lumped mass **crash** simulator, in combination with sled impact testing, to develop a **model** of a secured commercial powerbase and restrained occupant subjected to a 20 g/30 mph frontal motor **vehicle crash**. Time histories profiles of **simulation**-generated wheelchair kinematics, occupant accelerations, tiedown forces and occupant **restraint** forces were compared to sled impact testing for **model** validation. Validation efforts for this **model** were compared to validation results found acceptable for the ISO/SAE surrogate wheelchair **model**. This wheelchair-occupant **simulation model** can be used to investigate wheelchair **crash** response or to evaluate the influence of various factors on occupant **crash** safety.

L4 ANSWER 18 OF 21 INSPEC COPYRIGHT 2002 IEE

ACCESSION NUMBER: 1991:3795784 INSPEC

DOCUMENT NUMBER: C91012982

TITLE: **Crash simulation** methods for **vehicle** development at Mazda.

AUTHOR: Ando, S.; Kurimoto, K.; Taga, K. (Mazda Motor Corp., Hiroshima, Japan)

SOURCE: Cray Channels (Fall 1990) vol.12, no.3, p.10-13. 3 refs.
CODEN: CRCHE8

DOCUMENT TYPE: Journal

TREATMENT CODE: Application; Experimental

COUNTRY: United States

LANGUAGE: English

DN C91012982

AB At Mazda, developing new crashworthy **vehicles** involves

optimizing the body structure as well as the occupant **restraint** system. Mazda began to use large-scale **vehicle crash simulation** methods for design and optimization several years ago. Today, the company **models** crashworthiness on a CRAY X-MP supercomputer, a cost-effective, efficient way to develop new structures for **vehicle** safety. Three of the most typical **crashes** simulated are frontal, rear, and side impact.

L4 ANSWER 19 OF 21 EUROPATFULL COPYRIGHT 2002 WILA

PATENT APPLICATION - PATENTANMELDUNG - DEMANDE DE BREVET

ACCESSION NUMBER: 720008 EUROPATFULL EW 199627 FS OS STA R
TITLE: **Vehicle crash** data generator.
Fahrzeugaufpralldatengenerator.
Generateur de donnees de collision pour vehicule.
INVENTOR(S): Bourquin, Daniel Jack, 22345 Francis, Dearborn, Michigan 48124, US;
Cuddihy, Mark Anthony, 32975 West Road, New Boston, Michigan 48164, US;
Drummond, J. B.,jr., 23040 Bittersweet, Southfield, Michigan 48034, US
PATENT ASSIGNEE(S): FORD MOTOR COMPANY LIMITED, Eagle Way, Brentwood Essex, GB, in GB FORD-WERKE AKTIENGESELLSCHAFT, Werk Koeln-Niehl, Henry Ford Strasse, Postfach 60 04 02, D-50735 Koeln, DE, in DE FORD FRANCE S. A., B.P. 307, F-92506 Rueil-Malmaison Cedex, FR, in FR Ford Motor Company, The American Road, Dearborn, MI 48121, US, in IT
PATENT ASSIGNEE NO: 476311; 476354; 476291; 476340
AGENT: Messulam, Alec Moses et al, A. Messulam & Co. 24 Broadway, Leigh on Sea Essex SS9 1BN, GB
AGENT NUMBER: 33832
OTHER SOURCE: ESP1996035 EP 0720008 A2 960703
SOURCE: Wila-EPZ-1996-H27-T2a
DOCUMENT TYPE: Patent
LANGUAGE: Anmeldung in Englisch; Veroeffentlichung in Englisch
DESIGNATED STATES: R DE; R FR; R GB; R IT
PATENT INFO.PUB.TYPE: EPA2 EUROPAEISCHE PATENTANMELDUNG
PATENT INFORMATION:

	PATENT NO	KIND	DATE
	EP 720008	A2	19960703
'OFFENLEGUNGS' DATE:			19960703
APPLICATION INFO.:	EP 1995-309081		19951213
PRIORITY APPLN. INFO.:	US 1994-365381		19941227

GRANTED PATENT - ERTEILTES PATENT - BREVET DELIVRE

ACCESSION NUMBER: 720008 EUROPATFULL EW 200112 FS PS
TITLE: **Vehicle crash** data generator.
Fahrzeugaufpralldatengenerator.
Vehicle crash data generator.
INVENTOR(S): Bourquin, Daniel Jack, 22345 Francis, Dearborn, Michigan 48124, US;
Cuddihy, Mark Anthony, 32975 West Road, New Boston, Michigan 48164, US;
Drummond, J. B.,jr., 23040 Bittersweet, Southfield, Michigan 48034, US
PATENT ASSIGNEE(S): FORD MOTOR COMPANY LIMITED, Eagle Way, Brentwood Essex, GB, in GB;
FORD-WERKE AKTIENGESELLSCHAFT, Werk Koeln-Niehl, Henry Ford Strasse, Postfach 60 04 02, 50735 Koeln, DE, in DE;

FORD FRANCE S.A., B.P. 307, 92506 Rueil-Malmaison Cedex, FR, in FR;
FORD MOTOR COMPANY, The American Road, Dearborn, MI 48121, US, in IT

PATENT ASSIGNEE NO: 476311; 476354; 476291; 476340
AGENT: Messulam, Alec Moses et al., A. Messulam & Co. Ltd., 43-45 High Road, Bushey Heath, Bushey, Herts WD23 1EE, GB
AGENT NUMBER: 33832
OTHER SOURCE: BEPB2001012 EP 0720008 B1 0015
SOURCE: Wila-EPS-2001-H12-T2
DOCUMENT TYPE: Patent
LANGUAGE: Anmeldung in Englisch; Veroeffentlichung in Englisch
DESIGNATED STATES: R DE; R FR; R GB; R IT
PATENT INFO.PUB.TYPE: EPB1 EUROPAEISCHE PATENTSCHRIFT
PATENT INFORMATION:

	PATENT NO	KIND	DATE
	EP 720008	B1	20010321
'OFFENLEGUNGS' DATE:			19960703
APPLICATION INFO.:	EP 1995-309081		19951213
PRIORITY APPLN. INFO.:	US 1994-365381		19941227
REFERENCE PAT. INFO.:	US 5185701 A		

L4 ANSWER 20 OF 21 EUROPATFULL COPYRIGHT 2002 WILA

PATENT APPLICATION - PATENTANMELDUNG - DEMANDE DE BREVET

ACCESSION NUMBER: 701114 EUROPATFULL EW 199611 FS OS STA R
TITLE: Apparatus and method for side impact testing.
Vorrichtung und Verfahren zur Seitenaufprall-Pruefung.
Appareil et methode d'essai par choc lateral.
INVENTOR(S): Stein, Douglas J., 461 Thornehill Trail, Oxford, Michigan 48371, US;
Peters, Frederick M., 46594 Northvalley Drive, Northville, Michigan 48167, US;
Kelly, James R., 36391 Priestap Street, Richmond, Michigan 48062, US;
Ivan, Chad J., 2035 Kellogg Drive, Fenton, Michigan 48430, US
PATENT ASSIGNEE(S): MORTON INTERNATIONAL, INC., 100 North Riverside Plaza, Randolph Street at the River, Chicago, Illinois 60606, US
PATENT ASSIGNEE NO: 1152272
AGENT: Bankes, Stephen Charles Digby et al, BARON & WARREN 18 South End Kensington, London W8 5BU, GB
AGENT NUMBER: 47701
OTHER SOURCE: ESP1996014 EP 0701114 A2 960313
SOURCE: Wila-EPZ-1996-H11-T2a
DOCUMENT TYPE: Patent
LANGUAGE: Anmeldung in Englisch; Veroeffentlichung in Englisch
DESIGNATED STATES: R DE; R FR; R GB; R IT
PATENT INFO.PUB.TYPE: EPA2 EUROPAEISCHE PATENTANMELDUNG
PATENT INFORMATION:

	PATENT NO	KIND	DATE
	EP 701114	A2	19960313
'OFFENLEGUNGS' DATE:			19960313
APPLICATION INFO.:	EP 1995-306225		19950906
PRIORITY APPLN. INFO.:	US 1994-304386		19940912

GRANTED PATENT - ERTEILTES PATENT - BREVET DELIVRE

ACCESSION NUMBER: 701114 EUROPATFULL EW 200119 FS PS
TITLE: Apparatus and method for side impact testing.

PATENT NO KIND DATE

695668 A1 19960207
'OFFENLEGUNGS' DATE: 19960207
APPLICATION INFO.: EP 1995-201931 19950713
PRIORITY APPLN. INFO.: US 1994-285673 19940804

GRANTED PATENT - ERTEILTES PATENT - BREVET DELIVRE

ACCESSION NUMBER:	695668 EUROPATFULL EW 199750 FS PS
TITLE:	Supplemental inflatable **restraint** system. Zusaetzliches aufblasbares Rueckhaltesystem. Systeme de retenue gonflable supplementaire.
INVENTOR(S):	Lynch, David Dexter, 5442 Berkeley Road, Santa Barbara, CA 93111, US; Kiselewich, Stephen Joseph, 12980 Brighton Avenue, Carmel, IN 46032, US; Turner, Douglas David, 1604 Bramoor, Kokomo, IN 46902, US; Long, James Franklin, 6042 Paseo Palmilla, Goleta, CA 93117, US; Brumbach, Rex Patrick, Jr., 4946 La Ramada Drive, Goleta, CA 93111, US; Garcia, Porfirio, Jr., 1340 Tyndall Street, Santa Ynez, CA 93460, US
PATENT ASSIGNEE(S):	DELCO ELECTRONICS CORPORATION, 700 East Firmin Street, Kokomo Indiana 46902, US
PATENT ASSIGNEE NO:	954423
AGENT:	Denton, Michael John et al, Delphi Automotive Systems Centre Technique Paris 117 avenue des Nations B.P. 60059, 95972 Roissy Charles de Gaulle Cedex, FR
AGENT NUMBER:	51983
OTHER SOURCE:	EPB1997075 EP 0695668 B1 971210
SOURCE:	Wila-EPS-1997-H50-T3
DOCUMENT TYPE:	Patent
LANGUAGE:	Anmeldung in Englisch; Veroeffentlichung in Englisch
DESIGNATED STATES:	R DE; R FR; R GB
PATENT INFO.PUB.TYPE:	EPB1 EUROPAEISCHE PATENTSCHRIFT
PATENT INFORMATION:	

	PATENT NO	KIND	DATE
	EP 695668	B1	19971210
'OFFENLEGUNGS' DATE:			19960207
APPLICATION INFO.:	EP 1995-201931		19950713
PRIORITY APPLN. INFO.:	US 1994-285673		19940804
REFERENCE PAT. INFO.:	EP 567900 A		EP 568017 A